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UNITED STATES NAVAL OBSERVATORY
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U. S. Naval Observatory, Washington 25, D. C.

May 25, 1955

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS
JANUARY-FEBRUARY-MARCH, 1955

By Winifred Sawtell Cameron

These results are based upon measurements made at the Naval Observatory on plates secured either there or at the Mt. Wilson Observatory. The symbols used for the entries in the successive columns are as follows:

U.T., the epoch of observation in Universal Time.

No., the identifying number of the group assigned by Mt. Wilson.

Δl , the heliographic difference in longitude from the central meridian, measured positive to the west.

φ , the heliographic latitude, measured positive to the north.

ρ , the heliocentric angular distance from the line joining the centers of the Earth and Sun.

A , the true area of the umbra plus penumbra, expressed in millionths of the visible hemisphere.

s , the number of spots.

An asterisk means that no Mt. Wilson number was assigned. Plates secured at the Naval Observatory are indicated by N, and those at Mt. Wilson by M. The plate quality, which follows, is indicated by:

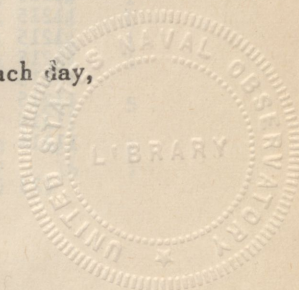
1, Poor; 2, Fair; 3, Good; 4, Very Good; 5, Excellent.

The following five quantities are listed successively at the end of each day, and give for that day:

1. The total number of groups, g .
2. The longitude of the central meridian, L_0 .
3. The latitude of the center of the disc, B_0 .
4. The total value of A .
5. The total value of s .

The mean daily area and the mean relative sunspot number, $r=10g+s$ are given at the end of the month.

These results are a continuation of those published in the *Monthly Weather Review* from February 1, 1927 to December 31, 1947.



JANUARY

U. T.	No.	Δl	φ	ρ	A	s	U. T.	No.	Δl	φ	ρ	A	s
1,597	11214	+33	-24	37	121	2	7,633	11218	-75	+37	80	1357	2
N-3	11214	+33	-22	36	121	1	N-3	11215	-18	+20	30	73	3
	11214	+37	-22	41	24	1		11215	-17	+18	27	48	3
	11214	+38	-23	42	48	1		11215	-16	+20	28	48	2
	11214	+41	-23	44	194	3		11215	-12	+21	27	24	2
	(1)	(215)	(-3)		508	8		11215	-10	+18	24	48	3
2,758	11214	+47	-24	51	97	1		11215	-10	+22	26	48	3
N-2	11214	+47	-22	50	85	2		11215	-9	+20	25	61	1
	11214	+55	-24	58	194	2		11215	-8	+21	25	97	4
	(1)	(200)	(-3)		376	5		11215	-6	+21	25	485	2
3,610	11214	+58	-22	61	24	1		11217	+5	-36	33	48	3
N-3	11214	+59	-24	63	73	1		11217	+7	-33	30	48	3
	11214	+67	-24	69	218	3		11216	+26	-26	34	48	1
	(1)	(189)	(-3)		315	5		(4)	(136)	(-4)		2433	32
4,603	11215	-55	+20	59	97	3	8,601	11218	-60	+37	68	727	3
N-3	11215	-54	+22	59	12	1	N-2	11218	-57	+36	67	145	1
	11215	-53	+19	57	36	3		11218	-56	+35	66	97	2
	11215	-50	+21	55	97	4		11218	-55	+37	65	48	3
	11214	+69	-22	70	24	1		11218	-53	+34	63	48	2
	11214	+70	-24	72	32	2		11215	-5	+20	24	36	2
	11214	+78	-24	79	145	2		11215	-4	+20	24	97	4
	(2)	(176)	(-3)		443	16		11215	-4	+19	24	48	3
5,606	11215	-45	+20	51	16	2		11215	+3	+22	25	24	1
N-2	11215	-44	+20	50	24	2		11215	+4	+21	25	24	2
	11215	-43	+19	48	73	2		11215	+6	+22	26	485	3
	11215	-42	+18	47	48	2		11217	+18	-36	36	48	1
	11215	-40	+20	46	48	2		11217	+20	-34	36	48	1
	11215	-39	+22	46	24	1		11217	+21	-33	36	36	1
	11215	-38	+19	45	73	3		11216	+40	-26	45	24	1
	11215	-36	+21	44	194	2		(4)	(123)	(-4)		1935	30
	11216	-4	-27	24	48	1	9,716	11218	-46	+37	59	485	3
	11216	0	-26	23	24	2	M-4	11218	-46	+35	57	16	4
	(2)	(163)	(-4)		572	19		11218	-43	+36	56	145	5
6,612	11215	-30	+17	36	85	4		11218	-42	+35	55	24	2
N-3	11215	-29	+20	37	97	6		11218	-41	+36	55	97	2
	11215	-28	+21	37	48	2		11218	-39	+34	52	6	1
	11215	-26	+21	36	12	2		11218	-37	+34	51	12	1
	11215	-24	+17	32	73	5		11215	+11	+18	24	12	1
	11215	-23	+21	33	48	3		11215	+11	+20	25	6	3
	11215	-23	+20	33	121	2		11215	+12	+17	24	16	4
	11215	-22	+19	32	16	3		11215	+12	+18	25	16	5
	11215	-21	+21	32	339	1		11215	+17	+18	27	12	3
	11216	+13	-26	26	73	1		11215	+21	+20	32	388	2
	(2)	(149)	(-4)		912	29		11217	+33	-34	44	6	1
								11217	+35	-35	46	12	1
								(3)	(109)	(-4)		1253	38
							10,734	11218	-33	+37	51	582	2
							N-2	11218	-30	+36	49	97	1

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U. T.	No.	Δl	φ	ρ	A	s	U. T.	No.	Δl	φ	ρ	A	s		
	11218	-28	+37	48	97	1	17,611	11218	+52	+36	64	436	1		
	11218	-27	+36	47	121	1	N-2	11218	+55	+35	65	73	1		
	11215	+36	+21	44	436	1		(1)	(5)	(-5)		509	2		
	(2)	(95)	(-4)		1333	6	18,618	11218	+65	+36	73	339	1		
11,808	11218	-21	+37	45	73	4	N-2		(1)	(351)	(-5)	339	1		
N-3	11218	-18	+37	44	582	2		19,763				0	0		
	11218	-16	+36	43	97	1	N-2		(0)	(336)	(-5)	0	0		
	11218	-14	+37	43	145	2		20,623	11219	-66	-24	67	6	1	
	11215	+50	+21	55	388	3		N-2		(1)	(325)	(-5)	6	1	
	(2)	(81)	(-4)		1285	12		21,680	11219	-56	-24	57	48	1	
12,711	11218	-11	+36	41	97	3		M-3		(1)	(311)	(-5)	48	1	
M-3	11218	-7	+37	42	582	2		22,829	11219	-43	-23	46	36	1	
	11218	-6	+34	38	16	1		N-3		(1)	(296)	(-5)	36	1	
	11218	-6	+33	37	16	1			23,771	11219	-30	-24	35	16	1
	11218	-5	+35	38	97	1		M-3	11220	-18	+30	38	24	5	
	11218	-4	+37	42	16	2			11220	-17	+31	39	12	3	
	11218	-3	+37	41	36	1			11220	-17	+32	40	12	4	
	11218	-3	+36	40	73	2			11220	-16	+28	36	6	3	
	11215	+61	+21	65	339	1			11220	-15	+32	39	12	4	
	(2)	(69)	(-4)		1272	14			11220	-15	+30	37	6	2	
13,620	11218	+3	+37	41	533	1			11220	-14	+32	38	6	2	
N-2	11218	+5	+35	39	121	2			11220	-14	+29	36	12	3	
	11218	+7	+37	42	24	1			11220	-13	+30	36	24	7	
	11218	+8	+36	41	73	2			11220	-13	+31	37	12	4	
	11215	+73	+21	76	267	1			(2)	(284)	(-5)		142	38	
	(2)	(57)	(-4)		1018	7	24,630	11219	-19	-23	26	48	1		
14,617	11218	+15	+36	44	630	2	N-2	11220	-7	+31	36	48	1		
N-2	11218	+18	+35	44	194	1		11220	-6	+31	35	48	1		
	11218	+21	+36	45	97	1		11220	-6	+32	36	48	1		
	11215	+86	+21	83	145	1		11220	+1	+30	34	97	1		
	(2)	(44)	(-5)		1066	5		(2)	(272)	(-5)		289	5		
15,737	11218	+28	+36	49	776	1	25,794	11219	-7	-24	19	24	1		
N-2	11218	+32	+35	50	194	3	N-3	11220	+8	+30	37	16	1		
	11218	+35	+36	53	121	2									
	(1)	(29)	(-5)		1091	6									
16,994	11218	+41	+36	55	48	1									
M-2	11218	+43	+35	56	24	2									
	11218	+45	+36	58	436	1									
	11218	+48	+35	61	61	1									
	(1)	(13)	(-5)		569	5									

JANUARY FEBRUARY

U.T.	No.	Δl	φ	ρ	A	s	U.T.	No.	Δl	φ	ρ	A	s
		$^{\circ}$	$^{\circ}$	$^{\circ}$					$^{\circ}$	$^{\circ}$	$^{\circ}$		
	11220	+9	+31	38	24	2	1,681	11224	-43	+21	51	73	1
	11220	+13	+30	38	61	2	M-3	11221	+3	-23	16	315	1
	11220	+16	+29	38	145	1		(2) (166)	(-6)			388	2
	11220	+17	+28	39	12	1							
	(2) (258)	(-6)			282	8	2,790	11224	-27	+21	39	48	1
26,617	11221	-76	-23	76	339	1	M-2	11221	+16	-24	24	291	1
N-3	11219	+6	-25	20	48	1		11225	+31	+20	41	16	1
	11220	+17	+30	41	24	1		11225	+34	+18	43	16	1
	11220	+18	+31	42	24	1		11225	+34	+19	44	24	1
	11220	+19	+32	43	6	1		11225	+35	+17	43	24	1
	11220	+26	+29	44	24	1		(3) (152)	(-6)			419	6
	11220	+27	+30	45	109	2							
	(3) (246)	(-6)			574	8	3,602	11224	-17	+21	33	97	2
27,683	11221	-70	-24	70	24	1	N-1	11221	+29	-23	33	315	1
N-2	11221	-63	-23	65	242	1		11225	+48	+21	56	73	1
	11222	0	+33	39	16	1		11225	+50	+18	57	73	1
	11220	+42	+30	55	97	1		(3) (141)	(-6)			558	5
	(3) (232)	(-6)			379	4	4,597	11224	-5	+21	27	73	1
28,577	11221	-53	-22	54	12	1	N-2	11221	+43	-23	46	291	1
N-2	11221	-51	-23	53	242	1		11225	+59	+22	66	73	1
	11220	+52	+30	64	73	1		11225	+63	+19	68	97	1
	(2) (220)	(-6)			327	3		(3) (128)	(-6)			534	4
29,594	11221	-37	-23	40	242	1	5,581	11224	+5	+21	27	12	1
N-3	11223	+50	-23	52	48	1	N-2	11224	+8	+21	28	24	1
	11223	+52	-21	53	61	1		11221	+55	-23	56	291	1
	(2) (207)	(-6)			351	3		11225	+70	+22	76	97	1
30,671	11224	-69	+22	74	145	1		11225	+74	+18	78	194	1
M-4	11221	-24	-22	27	12	2		(3) (115)	(-6)			618	5
	11221	-23	-22	27	6	1	6,733	11226	-66	+38	78	97	1
	11221	-22	-23	26	279	1	M-2	11227	-6	+27	34	24	1
	11223	+64	-24	65	16	1		11221	+70	-24	70	339	1
	11223	+67	-22	67	12	2		(3) (100)	(-6)			460	3
	(3) (193)	(-6)			470	8	7,629	11226	-57	+38	71	73	2
31,601	11224	-56	+20	63	242	1	N-3	11226	-55	+41	70	61	1
N-3	11221	-10	-23	19	388	1		11226	-54	+40	68	97	1
	(2) (180)	(-6)			630	2		11226	-51	+43	68	24	1
								11227	+4	+27	34	73	1
								11227	+7	+28	36	36	1
								11221	+80	-23	80	339	1
								(3) (88)	(-6)			703	8
							8,695	11226	-45	+40	64	61	3

Mean for 31 days
 $A=670$, $r=29.1$

FEBRUARY

U. T.	No.	Δl	φ	ρ	A	s	U. T.	No.	Δl	φ	ρ	A	s
		$^{\circ}$	$^{\circ}$	$^{\circ}$					$^{\circ}$	$^{\circ}$	$^{\circ}$		
N-2	11226	-43	+37	60	48	2		11228	+83	+36	81	48	1
	11226	-43	+40	62	48	1		(3)	(8)	(-7)		138	12
	11226	-41	+39	60	6	1	14,591	11226	+26	+40	54	12	1
	11226	-40	+42	61	12	1	N-3	11226	+33	+39	55	73	3
	11227	+18	+27	40	73	2		(1)	(355)	(-7)		85	4
	11227	+24	+28	43	48	1	15,631	11226	+46	+39	63	48	1
	11227	+25	+27	43	97	1	N-2						
	(2)	(74)	(-7)		393	12		(1)	(343)	(-7)		48	1
9,622	11226	-35	+39	56	97	3	16,762	11226	+63	+38	74	48	1
N-3	11226	-34	+35	54	36	2	N-3						
	11226	-33	+36	54	36	3		(1)	(328)	(-7)		48	1
	11226	-31	+36	52	36	1	17,744				0	0	
	11226	-30	+39	54	145	1	N-2						
	11227	+36	+28	50	12	1		(0)	(315)	(-7)		0	0
	11227	+37	+27	50	109	1	18,603				0	0	
	(2)	(62)	(-7)		471	12	N-3						
10,597	11226	-23	+40	52	97	2		(0)	(303)	(-7)		0	0
N-3	11226	-21	+35	47	16	2	19,594				0	0	
	11226	-20	+34	45	24	1	N-1						
	11226	-19	+39	50	12	1		(0)	(290)	(-7)		0	0
	11226	-17	+36	46	48	2	20,755				0	0	
	11226	-16	+39	48	170	1	N-2						
	11227	+52	+28	61	145	1		(0)	(275)	(-7)		0	0
	(2)	(49)	(-7)		512	10	21,686	11230	-78	+18	80	145	1
11,755	11226	-6	+40	47	48	4	N-2	11230	-71	+20	75	194	1
M-4	11226	-6	+36	44	12	2		(1)	(263)	(-7)		339	2
	11226	-4	+38	45	12	4	22,674	11231	-85	-22	85	145	1
	11226	-3	+39	46	24	5	M-2	11230	-62	+20	66	97	1
	11226	-3	+34	42	6	1		11230	-58	+22	64	170	2
	11226	-3	+36	44	6	3		(2)	(250)	(-7)		412	4
	11226	-1	+38	46	85	10	23,726	11231	-70	-22	68	194	1
	11228	+51	+36	65	6	1	N-2	11230	-50	+20	56	48	1
	11227	+66	+26	71	48	2		11230	-48	+18	54	97	1
	(3)	(34)	(-7)		247	32		11230	-44	+20	51	170	1
12,751	11229	-14	+37	46	48	1							
N-1	11229	-12	+37	46	121	1							
	11226	+5	+39	46	97	1							
	11226	+10	+38	46	194	1							
	(2)	(20)	(-7)		460	4							
13,664	11229	-3	+37	45	12	2							
M-4	11229	-1	+38	46	6	2							
	11229	+1	+36	44	12	1							
	11226	+16	+39	49	12	1							
	11226	+22	+38	50	48	5							

U. T.	No.	Δl	φ	ρ	A	s	U. T.	No.	Δl	φ	ρ	A	s
	11230	-43	+21	50	48	2	1,713	11231	+7	-23	17	121	1
	(2) (236)	(-7)			557	6	N-2	11230	+26	+21	38	24	2
24,703	11231	-56	-22	57	170	1		11230	+34	+20	44	12	1
M-4	11230	-36	+20	45	6	1		11230	+35	+20	44	24	2
	11230	-36	+21	45	12	3		11230	+36	+18	44	48	1
	11230	-34	+19	43	73	2		11230	+37	+17	44	12	1
	11230	-31	+21	41	97	4	(2) (157)	(-7)				241	8
	11230	-29	+21	40	61	3	2,587	11231	+19	-23	25	133	4
	11230	-29	+23	42	24	5	N-3	11230	+49	+18	55	48	1
	11230	-27	+22	39	12	2	(2) (146)	(-7)				181	5
(2) (223)	(-7)				455	21	3,589	11231	+33	-22	36	145	1
25,608	11231	-45	-23	46	194	1	N-3	11230	+63	+21	67	12	1
N-2	11230	-23	+19	35	97	1		11230	+64	+18	68	36	1
	11230	-20	+21	34	61	1	(2) (132)	(-7)				193	3
	11230	-20	+22	35	24	2	4,612	11231	+45	-21	46	121	1
	11230	-19	+20	34	48	1	N-2	(1) (119)	(-7)			121	1
(2) (211)	(-7)				424	6	5,678	11231	+58	-22	59	109	1
26,684	11231	-31	-23	34	145	1	M-3	(1) (105)	(-7)			109	1
N-1	11230	-12	+20	29	36	1	6,695	11231	+73	-22	71	109	1
	11230	-8	+18	27	85	1	M-2	(1) (91)	(-7)			109	1
	11230	-6	+20	27	73	1	7,621				0	0	0
	11230	-5	+19	26	73	1	N-3	(0) (79)	(-7)			0	0
(2) (197)	(-7)				412	5	8,600	11232	+45	+37	61	12	1
27,799	11231	-16	-23	23	145	2	N-2	11232	+46	+38	62	24	1
N-2	11230	+6	+18	26	48	2	(1) (66)	(-7)				36	2
	11230	+8	+22	30	16	1	9,592				0	0	0
	11230	+8	+20	28	73	1	N-2	(0) (53)	(-7)			0	0
	11230	+9	+19	27	48	1	10,595				0	0	0
	11230	+11	+20	28	97	2	N-3	(0) (40)	(-7)			0	0
	11230	+11	+18	27	24	1							
(2) (182)	(-7)				451	10							
28,592	11231	-6	-23	16	170	1							
N-4	11230	+18	+21	34	16	1							
	11230	+20	+20	34	121	2							
	11230	+21	+22	36	12	1							
	11230	+22	+19	34	36	2							
(2) (172)	(-7)				355	7							
Mean for 28 days $A = 339, r = 25.1$													

MARCH

U.T.	No.	Δl	φ	ρ	A	s	U.T.	No.	Δl	φ	ρ	A	s
		$^{\circ}$	$^{\circ}$	$^{\circ}$					$^{\circ}$	$^{\circ}$	$^{\circ}$		
11,826 N-4					0	0	22,694 N-4					0	0
	(0)	(24)	(-7)		0	0		(0)	(241)	(-7)		0	0
12,647 N-1					0	0	23,606 N-2					0	0
	(0)	(13)	(-7)		0	0		(0)	(229)	(-7)		0	0
13,688 N-2					0	0	24,696 N-4					0	0
	(0)	(359)	(-7)		0	0		(0)	(214)	(-7)		0	0
14,576 N-3					0	0	25,642 N-2					0	0
	(0)	(348)	(-7)		0	0		(0)	(202)	(-7)		0	0
15,610 M-2					0	0	26,635 N-3					0	0
	(0)	(334)	(-7)		0	0		(0)	(189)	(-7)		0	0
16,620 N-3					0	0	27,682 N-2					0	0
	(0)	(321)	(-7)		0	0		(0)	(175)	(-7)		0	0
17,591 N-3					0	0	28,594 N-2					0	0
	(0)	(308)	(-7)		0	0		(0)	(163)	(-7)		0	0
18,685 N-2					0	0	29,620 N-2					0	0
	(0)	(293)	(-7)		0	0		(0)	(149)	(-7)		0	0
19,662 M-3					0	0	30,590 N-3	11234	-66	-26	67	24	2
	(0)	(281)	(-7)		0	0		11234	-59	-26	60	36	1
								11234	-58	-26	59	16	1
20,837 N-2					0	0		(1)	(136)	(-7)		76	4
	(0)	(265)	(-7)		0	0	31,590 N-3	11234	-53	-26	54	73	2
								11234	-45	-26	47	36	1
21,666 M-2					0	0		11234	-44	-26	46	24	1
	(0)	(254)	(-7)		0	0		(1)	(123)	(-7)		133	4

Mean for 31 days
 $A = 39, r = 4.8$